

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently amended) A chimeric peptide comprising a an agonist μ opioid receptor binding moiety at its N-terminus and an agonist Substance P receptor binding moiety at its C-terminus, wherein said peptide induces analgesia.

Claim 2 (Original) The peptide of claim 1, wherein said peptide induces analgesia when administered to a mammal.

Claims 3-28 (Canceled)

Claim 29 (Currently amended) The peptide of claim 28 1 wherein the N-terminal amino acid residue of said opioid receptor binding moiety is a free amine.

Claim 30 (Previously added) The peptide of claim 29 wherein the N-terminal amino acid residue of said opioid receptor binding moiety is Tyr.

D¹ Claim 31 (Currently amended) The peptide of claim 30 wherein said opioid receptor binding moiety is a peptide having any one of SEQ ID Nos: 1-11, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of any one of SEQ ID Nos: 1-11 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claim 32 (Currently amended) The peptide of claim 30 wherein said opioid receptor binding moiety is endomorphin 1, endomorphin 2, an N-terminal fragment, or an N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of endomorphin 1 or endomorphin 2 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claim 33 (Currently amended) The peptide of claim 32 wherein said opioid receptor binding moiety is a peptide having SEQ ID Nos ~~No~~: 2 or 3, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of SEQ ID No: 2 or 3 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claims 34-44 (Canceled)

Claim 45 (Currently amended) The peptide of claim 1, wherein said agonist Substance P receptor binding moiety comprises Substance P, a C-terminal Substance P fragment, or a C-terminal Substance P derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of Substance P by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claim 46 (Previously amended) The peptide of claim 1, wherein the -COOH moiety of the C-terminal amino acid residue of said Substance P receptor binding moiety is protected.

Claim 47 (Previously added) The peptide of claim 46 wherein the -COOH moiety of the C-terminal amino acid residue of said Substance P receptor binding moiety is amidated.

Claim 48 (Previously added) The peptide of claim 47 wherein the C-terminal amino acid residue of said Substance P receptor binding moiety is Met-NH₂.

Claim 49 (Currently amended) The peptide of claim 48 wherein said Substance P receptor binding moiety is a peptide having any one of SEQ ID Nos: 21, 36 and 38-41, or a C-terminal fragment or C-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of any one of SEQ ID Nos: 21, 36 and 38-41

by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claims 50-56 (Canceled)

Claim 57 (Currently amended) ~~The peptide of claim 1 wherein the opioid receptor binding moiety is endomorphin 1, endomorphin 2, or an N-terminal fragment or N-terminal derivative thereof; and the Substance P receptor binding moiety is Substance P, or a C-terminal fragment or C-terminal derivative thereof. The peptide of claim 1 wherein~~

the opioid receptor binding moiety is endomorphin 1, endomorphin 2, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of endomorphin 1 or endomorphin 2 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist; and

the Substance P receptor binding moiety is Substance P, or a C-terminal fragment or a C-terminal Substance P derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of Substance P by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claim 58 (Previously added) The chimeric peptide of claim 1 wherein the peptide has SEQ ID No: 42.

Claim 59 (Previously added) The chimeric peptide of claim 1 wherein the peptide has SEQ ID No: 43.

Claims 60-61 (Canceled)

Claim 62 (Previously added) A pharmaceutical composition comprising the peptide of claim 1 and a pharmaceutically acceptable diluent.

Claim 63 (Previously added) The pharmaceutical composition of claim 62, further comprising an adjuvant.

Claim 64 (Previously amended) The pharmaceutical composition of claim 62, wherein said peptide induces analgesia when administered to a mammal.

Claims 65-68 (Canceled)

Claim 70 (Currently amended) The pharmaceutical composition of claim ~~69~~ 62 wherein the N-terminal amino acid residue of said opioid receptor binding moiety is a free amine.

Claim 71 (Previously amended) The pharmaceutical composition of claim 70 wherein the N-terminal amino acid residue of said opioid receptor binding moiety is Tyr.

Claim 72 (Currently amended) The pharmaceutical composition of claim 71 wherein said opioid receptor binding moiety is a peptide having any one of SEQ ID Nos: 1-11, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of any one of SEQ ID Nos: 1-11 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claim 73 (Currently amended) The pharmaceutical composition of claim 71 wherein said opioid receptor binding moiety is endomorphin 1, endomorphin 2, an N-terminal fragment, or an N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of endomorphin 1 or endomorphin 2 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claim 74 (Currently amended) The pharmaceutical composition of claim 73 wherein said opioid receptor binding moiety is a peptide having SEQ ID Nos ~~No~~: 2 or 3, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of SEQ ID No: 2 or 3 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist.

Claims 75-85 (Canceled)

Claim 86 (Currently amended) The pharmaceutical composition of claim 62, wherein said agonist Substance P receptor binding moiety comprises Substance P, a C-terminal Substance P fragment, or a C-terminal Substance P derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of Substance P by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claim 87 (Previously amended) The pharmaceutical composition of claim 62, wherein the –COOH moiety of the C-terminal amino acid residue of said Substance P receptor binding moiety is protected.

Claim 88 (Previously amended) The pharmaceutical composition of claim 87 wherein the –COOH moiety of the C-terminal amino acid residue of said Substance P receptor binding moiety is amidated.

Claim 89 (Previously amended) The pharmaceutical composition of claim 88 wherein the C-terminal amino acid residue of said Substance P receptor binding moiety is Met-NH₂.

Claim 90 (Currently amended) The pharmaceutical composition of claim 89 wherein said Substance P receptor binding moiety is a peptide having any one of SEQ ID Nos: 21,

36 and 38-41, or a C-terminal fragment or C-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of any one of SEQ ID Nos: 21, 36 and 38-41 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claims 91-97 (Canceled)

Claim 98 (Currently amended) ~~The pharmaceutical composition of claim 62 wherein the opioid receptor binding moiety is endomorphin 1, endomorphin 2, or an N-terminal fragment or N-terminal derivative thereof; and the Substance P receptor binding moiety is Substance P, or a C-terminal fragment or C-terminal derivative thereof. The~~ pharmaceutical composition of claim 62 wherein

the opioid receptor binding moiety is endomorphin 1, endomorphin 2, or an N-terminal fragment or N-terminal derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of endomorphin 1 or endomorphin 2 by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a μ opioid receptor agonist;
and

the Substance P receptor binding moiety is Substance P, or a C-terminal fragment or a C-terminal Substance P derivative thereof; wherein the derivative is obtained by alteration of the amino acid sequence of Substance P by substitution, addition or deletion of one or more amino acids, whereby the derivative is at least 4 amino acid residues long and is a Substance P receptor agonist.

Claim 99 (Previously amended) The pharmaceutical composition of claim 62 wherein the peptide has SEQ ID No: 42.

Claim 100 (Previously amended) The pharmaceutical composition of claim 62 wherein the peptide has SEQ ID No: 43.

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D Claims 101-102 (Canceled)
